

RGBU806 THRU RGBU810
FAST RECOVERY BRIDGE RECTIFIERS



VOLTAGE	600~1000 Volts	CURRENT	8.0 Amperes	GBU	Marking & Schematic diagram										
FEATURES															
<ul style="list-style-type: none"> Glass passivated die construction low forward voltage drop High current capability High surge current capability Plastic material-UL flammability 94V-0 				<table border="1"> <thead> <tr> <th>PIN</th> <th>DISCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output Cathode(-)</td> </tr> <tr> <td>2</td> <td>Input Pin(AC1)</td> </tr> <tr> <td>3</td> <td>Input Pin(AC2)</td> </tr> <tr> <td>4</td> <td>Output Anode(+)</td> </tr> </tbody> </table>		PIN	DISCRIPTION	1	Output Cathode(-)	2	Input Pin(AC1)	3	Input Pin(AC2)	4	Output Anode(+)
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4	Output Anode(+)														
MECHANICAL DATA				<p>Remark:</p> <ul style="list-style-type: none"> NH=niuhang trademark FF=Product line code,According to actual changes YWW=Date code,According to actual changes EDDKF=Inernal code,According to actual changes RGBU8xx=Modle,xx=06,08,10 "- AC +"=Polarity mark 											
<ul style="list-style-type: none"> Case: GBU , olded lastic Terminals: Plated Leads Solderable per MIL-STD-202, Method 208 Polarity: As Marked on Case Mounting Position: Any Lead Free: For RoHS / Lead Free Version 															
TYPICAL APPLICATIONS															
<ul style="list-style-type: none"> For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications 															

Single phase,half wave,60Hz,resistive or inductive load.For capacitive load,derate current by 20%

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	RGBU806	RGBU808	RGBU810	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	800	1000	V
Maximum RMS Voltag	V_{RMS}	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	600	800	1000	V
Maximum Average Forward Rectified Current @ TC=100°C (see fig.1)	$I_{F(AV)}$	with heatsink 8 without heatsink 3.2			A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rate Load (JEDEC Method)	I_{FSM}	220			A
Current Squared Time Per Diode(t<8.3ms)	$I^2 t$	200.86			A ² sec

Electrical Characteristcs (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	RGBU806	RGBU808	RGBU810	Unit
Maximum Forward Voltage Per Diode @4A (Note 1)	V_{FM}	0.95			V
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 2)	I_{RRM}	T _C =25°C 1 T _C =125°C 200			uA
Typical Junction Capacitance Per Diode (Note 3)	C_J	65			pF
Maximum Reverse Recovery Time (Note 4)	T_{RR}	500			nS

Thermal Characteristcs (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	RGBU806	RGBU808	RGBU810	Unit
Operating Junction Temperature Range	T_J	-55 to +150			°C
Storage Temperature Range	T_{STD}	-55 to +150			
Typical thermal resistance (Note 5)	$R_{\theta JA}$	23.0			°C/W
	$R_{\theta JC}$	1.8			

- Notes:
- Pulse test: 300 μs pulse width,1% duty cycle
 - Pulse test: pulse width≤40ms
 - Measured at 1 MHZ and applied reverse voltage of 4.0 VDC.
 - Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
 - Device mounted on Device mounted on 75mm x 45mm x 4.5mm Aluminum Plate Heatsink.

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RATING AND CHARACTERISTIC CURVES

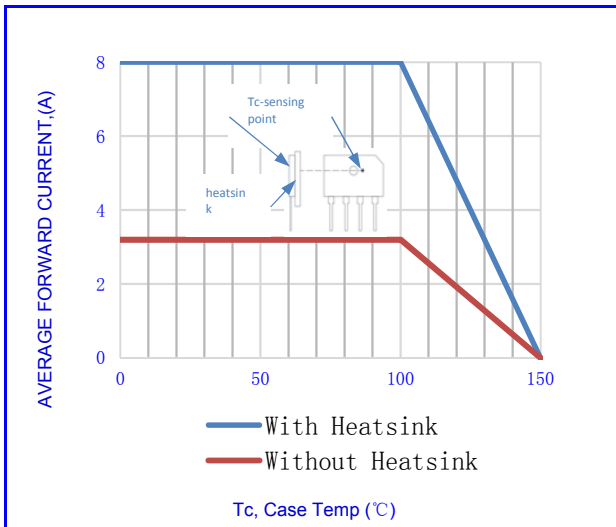


Fig.1-FORWARD CURRENT DERATING CURVE

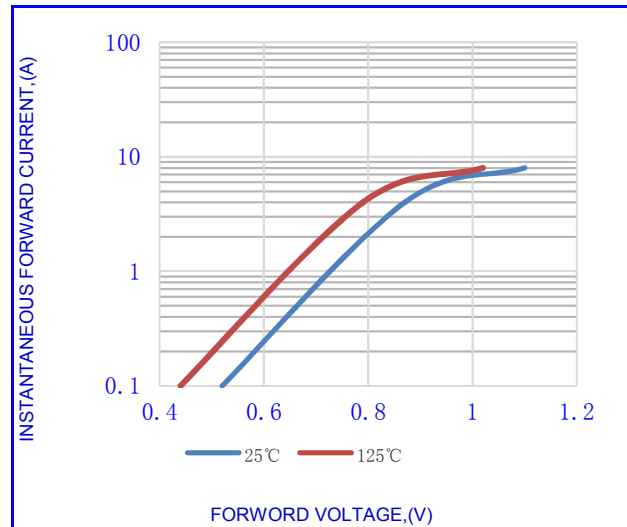


Fig.2- TYPICAL INSTANTANEOUS FORWARD

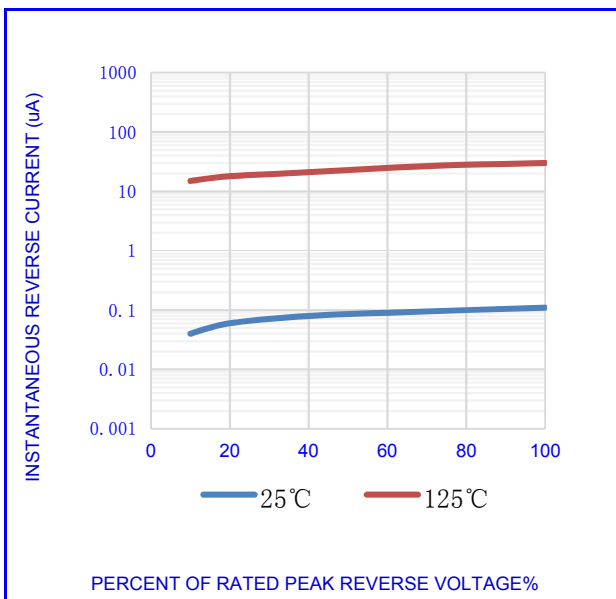


Fig.3- TYPICAL REVERSE CHARACTERISTICS

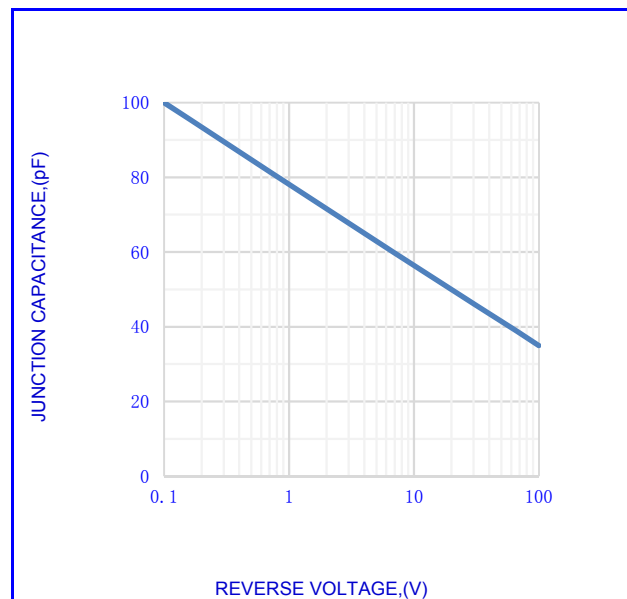


Fig.4- TYPICAL JUNCTION CAPACITANCE

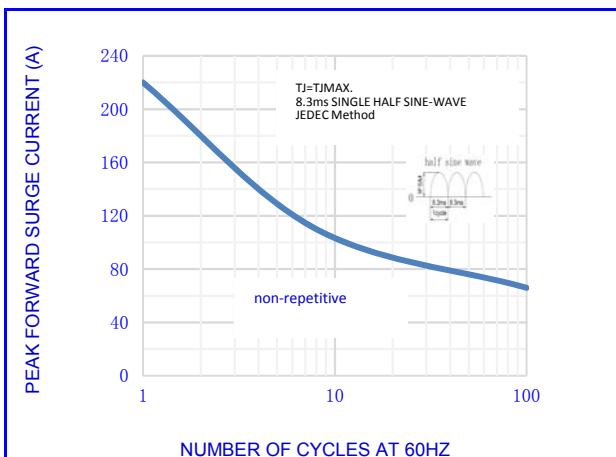


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

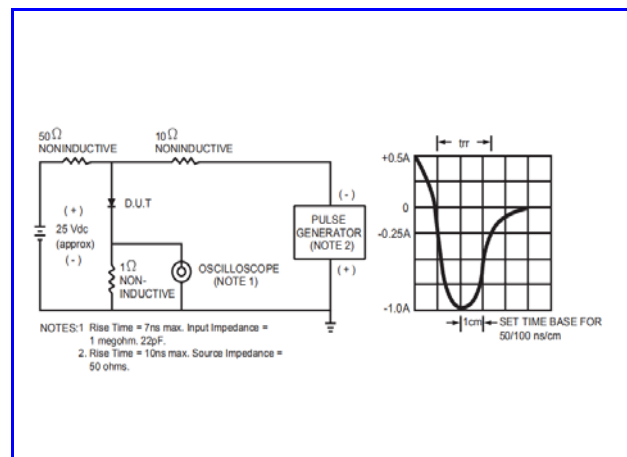


Fig.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

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OUTLINE DRAWINGS		GBU					
		OUTLINE DIMENSIONS					
		MILLIMETERS			INCHES		
DIM	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
A	21.50	-	23.50	0.85	-	0.93	
B	18.30	-	19.10	0.72	-	0.75	
C	10.90	-	11.10	0.43	-	0.44	
D	9.20	-	10.20	0.36	-	0.40	
E	1.90	-	2.70	0.07	-	0.11	
F	-	3.2°/45°	-	-	3.2°/45°	-	
G	5.50	-	5.90	0.22	-	0.23	
H	3.50	-	3.90	0.14	-	0.15	
J	2.00	-	2.40	0.08	-	0.09	
K	0.90	-	1.20	0.04	-	0.05	
L	15.00	15.50	16.00	0.59	0.61	0.63	
M	0.40	-	0.60	0.02	-	0.02	
N	2.30	-	2.70	0.09	-	0.11	
P	4.60	-	5.30	0.18	-	0.21	
T	3.30	-	3.60	0.13	-	0.14	

Packing Information

Package	Pack	Quantity (pcs/box)	Box Size L×W×H (mm)	Carton Size L×W×H (mm)	Quantity (pcs/carton)
GBU	B/P	250	230x110x40	455x245x230	5000

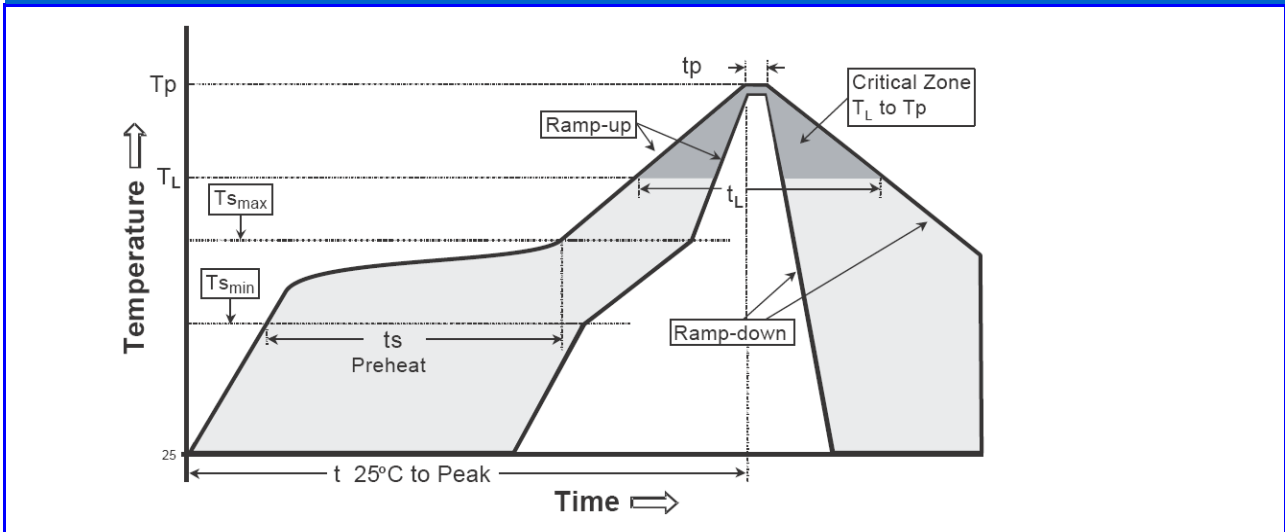
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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmmax to Tp)	3°C/second max.	3°C/second max.
Preheat - Temperature Min(TS min) - Temperature Max(TS max) - Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: - Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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